

Solid support assays using non-standard bases are described. A capture oligonucleotide comprising a molecular recognition sequence is attached to a solid support and hybridized with a target oligonucleotide the solid support. In some instances, the molecular recognition sequence includes one or more non-standard bases and hybridizes to a complementary tagging sequence of the target oligonucleotide. In other instances, incorporation of a non-standard base (e.g., via PCR or ligation) is used in the assay.